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The NIH Record

U.S. Department
of Health,
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Welfare

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National
Institutes
of
Health

Dr. Charles U. Lowe Named OMAR Acting Asso. Director

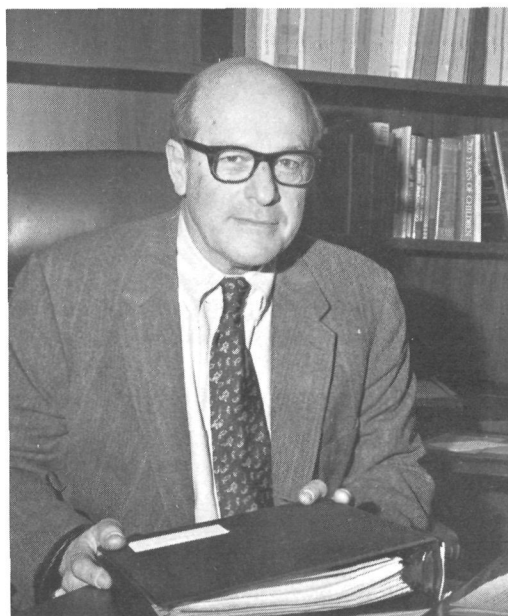
Dr. Charles U. Lowe was named Acting NIH Associate Director for Medical Applications of Research by NIH Director Dr. Donald S. Fredrickson. Prior to his appointment, Dr. Lowe served as Special Assistant to the Director.

He replaces the former Associate Director, Dr. Seymour Perry, who was recently named Director of the National Center for Health Care Technology, Office of the Assistant Secretary for Health, HEW.

As Acting Associate Director, Dr. Lowe will head NIH technology assessment activities. Among his responsibilities, he will direct the Office for Medical Applications of Research, which coordinates the NIH Consensus Development Program.

As Special Assistant to the Director, Dr.

(See DR. LOWE, Page 7)



Dr. Lowe will coordinate the NIH Consensus Development Program.

Dr. Dorothy Horstmann To Give Fifth Kinyoun Lecture Tomorrow in Wilson Hall

Dr. Dorothy M. Horstmann, professor of epidemiology and pediatrics at Yale University, will deliver the fifth Kinyoun Lecture on Wednesday, Mar. 5, at 4 p.m. in Wilson Hall.

She will speak on Fatal Infectious Mononucleosis and Polyclonal B Cell Lymphoma.

Research Interests Noted

Dr. Horstmann's research interests focus on two areas: the pathogenesis and clinical virology of the Epstein-Barr virus infection, and the characterization of the immune response and comparison of vaccine-induced and naturally acquired resistance to rubella.

This series, sponsored by the National Institute of Allergy and Infectious Diseases, honors Dr. Joseph J. Kinyoun, who established the Laboratory of Hygiene at the Marine Hospital on Staten Island, N.Y., that later evolved into the National Institutes of Health. □

Direction of Fed'l Research on Radiation Effects To Be Discussed at Public Meeting

The future direction of Federal research on radiation effects will be discussed at a public meeting Mar. 10-11, from 8:30 a.m. until adjournment each day, in the Masur Auditorium.

The meeting, A Proposed Federal Radiation Research Agenda, is sponsored by the Committee on Federal Research into the Biological Effects of Ionizing Radiation, which is chaired by Dr. Donald S. Fredrickson, NIH Director.

Participating in the meeting will be radiobiologists and other experts in the field, health officials, legal and ethical advisers, and representatives of consumer and public interest groups.

Ionizing radiation is either electromagnetic (such as X-rays) or a particulate (such as neutrons) radiation of sufficient energy to produce electrically charged ionizations in the atoms of a target (including living tissues).

Radiation as a health hazard is of concern because of its increased use in medicine and industry, testing of atomic weapons,

dependency on nuclear energy, and release of radioactivity through mining.

Current standards and guides in radiation protection are based on estimates of cancer and genetic risks. The degree of control advocated is directly related to the validity of the risk estimates.

Committee Goal Outlined

The goal of the Federal committee is to develop a comprehensive, Government-wide radiation effects research program which ultimately will reduce the uncertainty in radiation risk estimates.

On the first day of the meeting participants will present papers on the current status of radiation biological research and issues of public concern. These include legal, ethical, and economic constraints to developing a more complete understanding of the effects of radiation.

On the second day, experts will present

(See RADIATION, Page 10)



Vice President Walter Mondale admires a bronze bust of Dr. Charles R. Drew, the pioneering Black surgeon whose development of the modern blood bank is credited with saving countless lives, after receiving it at a White House ceremony. The ceremony in early February marked the start of Black History Month. The bust will eventually be placed at NIH.

The NIH Record

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Four Showings of CPR Film Scheduled for Next Week

"A Life In Your Hands," a 15-minute film on cardiopulmonary resuscitation, will be shown to employees who might be interested in taking a CPR course.

Sue Henderson, director of CPR for the Occupational Medical Service, will be available after the film for a question-and-answer session.

The film will be shown from 11:30 a.m. until 12:15 p.m. on the following dates and at these locations:

Tuesday, Mar. 11, in the Federal Bldg., Rm. B119; Wednesday, Mar. 12, in Masur Auditorium; Thursday, Mar. 13, in Bldg. 1, Wilson Hall; and Friday, Mar. 14, in the Westwood Bldg., Conf. Rm. D. □

NIH Tennis Club Meets March 20, Plans Season

The NIH Tennis Club, sponsored by R&W, will hold its first meeting of the new season at 11:30 a.m. on Thursday, Mar. 20, in Bldg. 1, Wilson Hall.

Announcements will be made regarding membership applications, singles ladder, tennis lessons, flight tennis, team tennis, and the spring tournament.

All tennis players are welcome to attend. For further information call Rick Hargett, 496-4602. □

Financial Seminar Series Begins Tomorrow

Merrill Lynch will conduct a series of financial seminars each Wednesday in March, beginning Mar. 5 through Mar. 26, from noon to 1 p.m., in Conf. Rm. 4, Bldg. 31.

Interested employees can sign up at the R&W Activities Desk in Bldg. 31. □

Info. Intern Program Accepts Applications

Applications are again being accepted, from Mar. 3 through 17, for two positions in the NIH Information Intern Program. This will allow NIH employees who have not taken the PACE examination to be considered. Due to a change in NIH policy, the PACE examination will no longer be required for NIH employees applying for the NIH Information Intern Program.

Applicants who applied under announcements dated July 9 through Aug. 6, 1979, will automatically be considered and need not reapply. Their PACE scores will not be used by the qualification review boards or by selecting officials.

The program consists of four different on-the-job training assignments over the course of a year. In addition, interns enroll in formal course work and attend seminars and meetings to enhance their knowledge of science writing and public information. Participants for the program may be selected from within and outside the Federal service.

Members of minority groups are encouraged to apply.

Requirements Listed

NIH candidates must:

- Have a career or career-conditional appointment, and have worked at NIH for at least 1 year.

- Work full-time or be willing to be changed to full-time.

At the GS-5 level:

- 3 years of progressively responsible, nonclerical experience, or
- 4 years of college or university study leading to a bachelor's degree, or
- a combination of experience and education.

At the GS-7 level:

- Requirements for GS-5, and
- 1 year of additional experience or education.

Should an applicant need to request a downgrade to enter the program he or she may be entitled to salary retention for a 2-year period.

To apply, send a current Standard Form 171, Personal Qualifications Statement, to the Personnel Office, OD-FIC-OA, Bldg. 31, Rm. 1C-15.

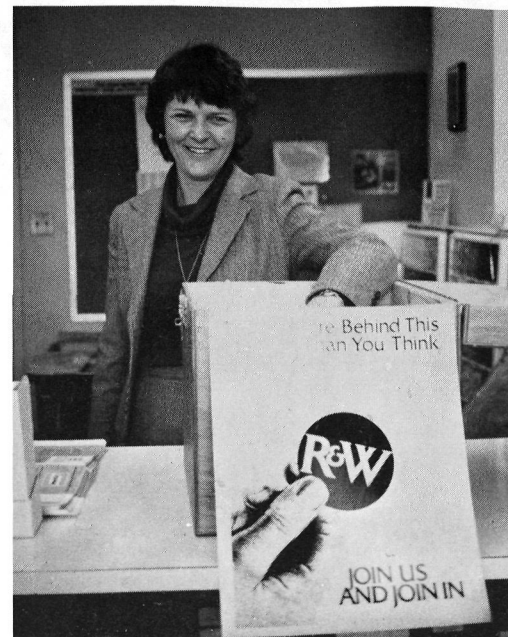
For more about the Information Intern Program, there will be an Information Session on Friday, Mar. 7, from 3 to 5 p.m. in the Masur Auditorium. Please contact Harry Marshall, Career Development Branch, DPM, 496-6211, for general information. □

'Hamsters' Issue Casting Call

The "Hamsters," the R&W Little Theatre Group, needs several men to complete its casting for the three-act comedy, "You Can't Take It With You."

Rehearsals for the play, which will be presented in May, are scheduled to begin by Mar. 10.

To join the production, contact immediately Donna Bareis, 496-2456, or Sally Richardson, 496-5303. □



NCI's Pat Gallahan helps pick the winners of this year's R&W membership drive. Prizes included an NIH Cookbook, radios, and tickets to see the Bullets. The grand prize of dinner for two at the Peppermill was won by Dr. G. K. Poochikian, NCI.

THINK METRIC-- New Course Offered

THINK METRIC, a new 15-session course on the metric system, is being offered to NIH employees.

- If the outside temperature at NIH was 37 degrees Celsius, would you wear a sweater to work?

- If a nurse weighed you and found that you were 98 kilograms, would a beach bully kick sand in your face?

- If a news reporter were to tell his audience that the new Clinical Center is 10,000 meters high, would he be accurate?

If these and other questions about the metric world trouble you, maybe this two-credit Career Education Center course will help.

On Tuesdays and Thursdays, from 5 to 7 p.m., beginning Mar. 11 through Apr. 29, NIH employees will learn about the history and rationale for such standard system of measurement.

Both NIH office and laboratory personnel will be introduced to metric units of length, area, volume, pressure, temperature, and other measures. Conversion to and from metric as well as within the metric system will be emphasized.

Practical Problems To Be Stressed

In addition, the proper use of metric terminology, including abbreviations and punctuation, will be covered. Practical problem solving and reasoning metrically will also be covered.

The course meets in Bldg. 31, Rm. B3C-02C. Enrollment is limited to 20 students and there is no cost to either the student or the B/I/D.

Register by submitting HEW Form 350 to R. Jackson, project officer, Career Development Branch, Bldg. 31, Rm. B2C-39. For further information, call 496-6211. □

Trappist Monk Volunteers Assist Research On Hepatitis B Vaccine

by Mary Donovan

For the past 21½ years a unique collaboration between men of science and religion has led to more information about the inoculation of humans with the hepatitis B virus vaccine.

Last month, the cloistered and contemplative lives of 18 Trappist monks of the Monastery of the Holy Spirit in Conyers, Ga., were interrupted by a visit from Drs. Robert Purcell and Vincent McAuliffe from NIAID's Hepatitis Viruses Section and Franklin Tyeryar, NIAID Extramural Hepatitis Program officer, to express their appreciation for the monks' participation in the hepatitis B vaccine trials, that led after 11 months to vaccines that are now safe for humans.

In the fall of 1977 the monks became the first humans to receive the NIAID experimental hepatitis B vaccine. They were selected because they were unlikely to have had prior exposure to hepatitis B infection.

Prior to the monks agreeing to be inoculated, there was lengthy debate at several NIH conferences as to which group of people might best be suited for such research.

Besides a concern for the health and safety of each participant in the experiment, researchers wanted to find a group where "a truly informed consent might be given," says Dr. Purcell about the process that led up to the selection of a confined religious community, who had volunteered for humanitarian reasons.

Dr. Purcell says that several Cistercian orders were contacted, but that only three were determined to be suitable for the hepatitis B vaccine trials.

Finally, the Monastery of the Holy Spirit was chosen because of its population size and the fact that one of the monks had been a physician.



Dom Augustine Moore (l), Abbot of the Monastery of the Holy Spirit, accepts a certificate from Dr. Franklin Tyeryar "in general appreciation of services as volunteers in a research study of broad significance to the advancement of medical science and ultimate benefit of mankind."



During his visit, Dr. Robert Purcell explains results from the hepatitis vaccine trials to the monks who were the first humans to receive the NIAID experimental hepatitis B vaccine.

Research efforts into hepatitis B vaccines began in the 1960's with the discovery of the "Australia antigen," now known as the hepatitis B surface antigen.

During the trials, the vaccine given to the monks was a chemically inactivated preparation of antigen particles isolated and purified from the blood of chronic carriers.

Before testing in humans began, the vaccine was shown to be safe and effective in preventing infection in chimpanzees exposed to the hepatitis B virus.

Several different vaccine preparations were tested to determine safety and ability to stimulate a protective antibody response.

Followup antibody studies led to subsequent modifications of the vaccine, now undergoing further immunogenicity testing in NIH volunteers. At NIAID and elsewhere today, hepatitis B vaccines are under clinical investigation.

At the monastery, a champagne toast and a tour of the monks' greenhouse, where they grow exotic plants for sale, were scheduled for the NIH visitors.

Dr. Tyeryar presented the community with a certificate signed by Dr. Donald S. Fredrickson, NIH Director, and Dr. Richard Krause, NIAID Director, as a tribute to the volunteers.

In addition, each of the monks who participated in the study received a personalized letter from Dr. Krause acknowledging their contribution and commitment to NIAID's mandate to develop effective methods for controlling the major infectious diseases, such as viral hepatitis.

Today, nearly 50 NIH employees have received one of four experimental hepatitis B vaccines. Two of these preparations appear particularly promising, producing an antibody response in almost all of the individuals who received them. There has been no adverse reaction observed in those tested.

Drs. Purcell and McAuliffe are seeking additional NIH volunteers to continue their immunogenicity studies. Anyone interested in receiving the vaccine should contact them at 496-6227. □

Camera Club Meets Mar. 12; Photo Workshop Seminar Offered This Saturday

Stereo photography and a pictorial photo competition will be featured at the next meeting of the NIH Camera Club, on Wednesday, Mar. 12, at 7:30 p.m., in Conf. Rm. 4, Bldg. 31.

In addition, the Greater Washington Council of Camera Clubs, of which the NIH Camera Club is a member, is sponsoring the Sixth Annual Photographic Seminar Workshop, to be held on Saturday, Mar. 8, at 9 a.m., at Albert Einstein Senior High School in Kensington, Md.

The topics of the workshops and seminars will include: starting your own darkroom, photographing people, color printing, and correct metering.

Gary Whelpley, Eastman Kodak Company, will present a program on A New Dimension in Existing Light, and Paul and Eunice Luebke will present a photo program on China.

Tickets at the door are \$11 (students \$6).

For further information or to register contact: Heather Banks, NIH Camera Club, 340-3327; Melvin Brown, GWCCC, 464-1636; or the NIH R&W Office. □

CORRECTION

In the Feb. 19 issue of *The NIH Record*, page 3, the photos of D.C. Mayor Marion Barry and Dr. Harold A. Greenberg were reversed by the printing contractor. We regret the error. □

Working Does Not Increase Risk Of Heart Disease for Women

Increasing numbers of women are joining the ranks of those working full-time outside the home. Do they, by entering the 9-to-5 rat race, also increase their probability of having coronary heart disease?

Generally speaking, they do not, according to a recent study by Drs. Suzanne Haynes and Manning Feinleib, Epidemiology Branch, National Heart, Lung, and Blood Institute.

The 8-year study, using data from the Framingham Heart Study, concluded that "working women did not have significantly higher incidence rates of coronary heart disease than housewives." Some exceptions were found, however, when the women were categorized according to occupation and marital status.

Beginning in 1965, a 300-item psychosocial questionnaire was administered to 1,319 people (352 housewives, 387 working women, and 580 men) who were enrolled in the Framingham study. The questionnaire assessed employment and occupational status, personality type, situational stress, reactions to anger, sociocultural mobility, and family responsibilities.

All of the participants were 45 to 64 years old and were free of coronary heart disease at the time the study began. A working woman was defined as one who had worked outside the home for more than half her adult life.

Women Report More Stress

Regardless of employment status (currently employed, unemployed, or retired) women reported more symptoms of emotional stress than did men. Working women experienced more job mobility than men, and more daily stress and marital dissatisfaction than housewives or men. All of these differences were statistically significant.

Although the overall data indicate that the incidence rates of coronary heart disease were similar for working women (7.8 percent) and housewives (5.4 percent), the incidence rate for women in clerical occupations (10.6 percent) was nearly double that of housewives.

In addition coronary heart disease rates were higher among working women who were married or had ever been married, especially those who had raised three or more children.

The findings indicate that women in clerical positions (secretaries, stenographers, bank clerks, bookkeepers, and sales personnel) are at higher risk of developing coronary heart disease than are other women, that the risk increases with family responsibilities, and that the risk is greater (21.3 percent) if a woman in a clerical occupation has children and is married to a man in a blue-collar job.

The most statistically significant predictors of coronary heart disease among women in clerical occupations are suppressed hostility, having a nonsupportive boss, and lack of job mobility.

It is commonly believed that the lifespan of males is shorter than that of females because men work outside the home. With more and more females entering the work force, there was some concern that these women would begin to show the same mortality statistics as men for chronic diseases such as coronary heart disease.

Dr. Haynes noted that "the Framingham data show that employment by women, in itself, is not related to an increased risk of coronary heart disease. In fact, the women who were employed the longest period of time—the single, working women—had the lowest rate of coronary heart disease." □

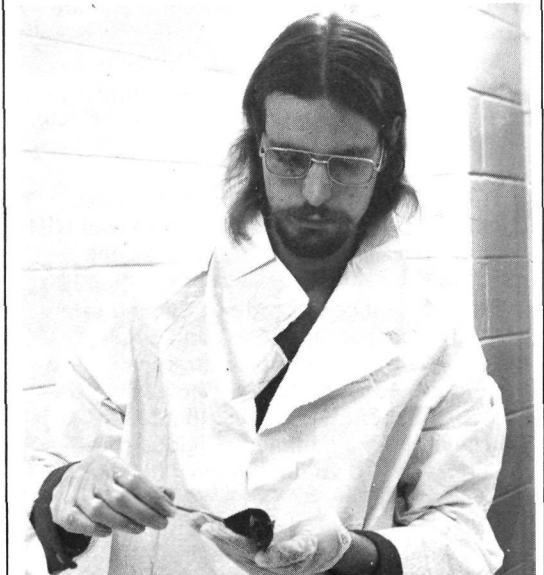
Slater To Assist in Rewriting Lab. Animal Tech. Manual

Joe Slater, a biological laboratory technician in the Comparative Medicine Branch, NIEHS, was recently asked to participate in rewriting the nationally used *Assistant Laboratory Animal Technician Manual* and the *Laboratory Technologist Manual*, prepared by the American Association for Laboratory Animal Science.

He will collaborate on rewriting the section on the hamster as a laboratory animal, its history, use, housing, and care.

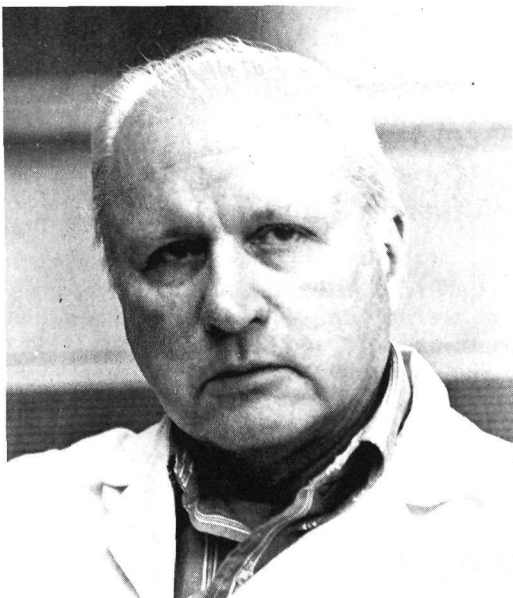
Mr. Slater was chosen because of his specialized knowledge acquired in developing a breeding colony of eighty 15/16 hamsters, a special inbred strain.

The breeding colony is believed to be the only one of this strain of hamsters.



Mr. Slater, the expert on the 15/16 strain of hamsters, prepares a laboratory mouse for an experiment.

Dr. William Banfield Retires After 26 Years; Was Pioneer in Electron Microscopy



After retiring, Dr. Banfield will continue his major avocation: raising sheep on his 11-acre farm in Maryland. Originally the sheep supplied serum for research, but now Dr. Banfield raises them for the local mutton and wool market.

Dr. William G. Banfield, a pioneer researcher in electron microscopy in the National Cancer Institute's Laboratory of Pathology, retired last month after 26 years at NIH.

Dr. Banfield came to the Laboratory of Pathology a year after its establishment in 1953 as a diagnostic facility for the Clinical Center.

Trained in the then new field of electron microscopy at Yale University, he was the first with such skills in the NCI laboratory, and was one of the first scientists to obtain images of the polyoma virus, a tumor-causing agent in mice.

As the research applications of the electron microscope progressed, Dr. Banfield was involved in refining the technology and developing a more versatile instrument, the scanning electron microscope.

This machine is capable of producing three-dimensional images of objects ranging in size from cells to insects.

In the last 10 years, Dr. Banfield has contributed to another innovation in electron microscope instrumentation, the electron probe. This device identifies small amounts of

elements such as sodium, lead, and mercury in tissues and cells.

It does so by creating a spectral picture of the X-ray wavelengths and energies of a specimen. Since each element has a characteristic spectral picture, identification is a matter of matching the pattern of the specimen with a known pattern.

Dr. Banfield has used the probe to analyze elements associated with asbestos particles lodged in lung tissue, and to identify elements in nerves from a cancer patient who had been treated with an anticancer drug containing platinum.

One of his recent projects has been to study the mineral changes that occur in skin connective tissue with age and after exposure to sunlight.

The results may yield new knowledge about calcification, the deposition of calcium in healthy and diseased tissue, and about the nature of the fibers of connective tissue.

The electron probe is an instrument in search of applications, says Dr. Banfield. Because of its ability to identify elements and their location in tissues and cells, he foresees its use in every major physiology laboratory. □

New Method of Publishing Scientific Papers Is Faster, Cheaper, More Accurate

By Mary Hodges

A new method of publishing scientific papers which promises to make the process quicker, cheaper, and more accurate has been demonstrated by Dr. V. Adrian Parsegian, a scientist in the Division of Computer Research and Technology.

Dr. Parsegian showed that manuscripts can be sent to a printer on magnetic tape ready for electronic typesetting on computerized printing equipment.

Although typesetting in the printing industry has become computerized over the last decade, manuscript preparation for scientific journals remains an expensive, manual process. Under existing procedures, printers must copy manuscripts from typed pages onto magnetic tapes to drive their computers.

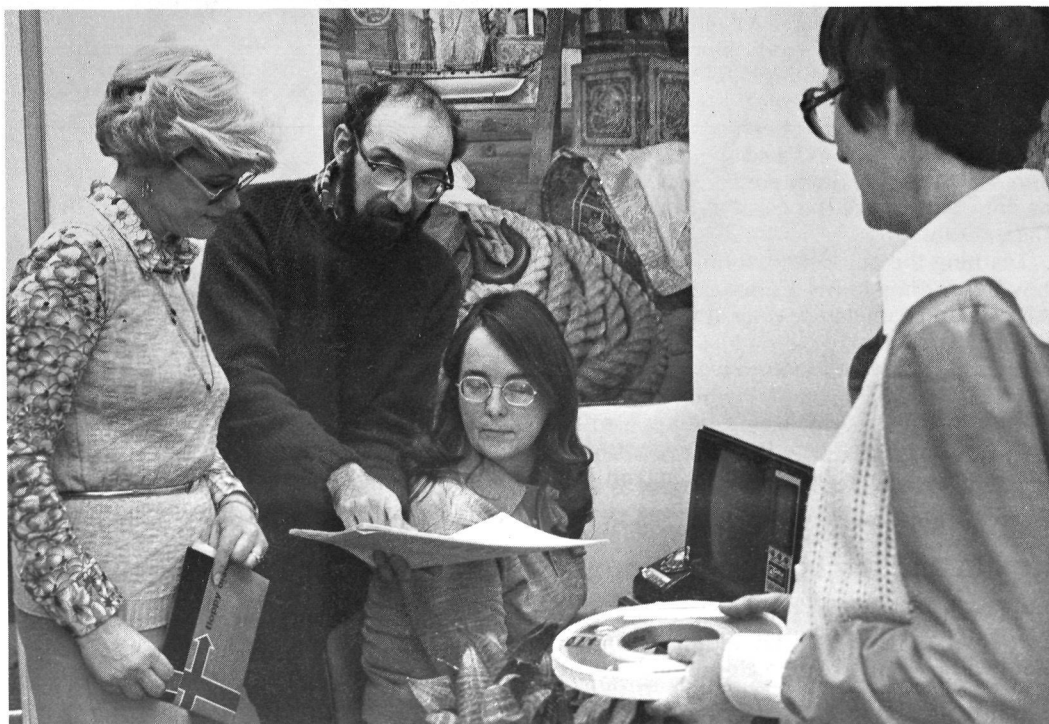
"That is an expensive and error-prone repetition of labor," says Dr. Parsegian, research physicist in the Physical Sciences Laboratory, author, and editor of the *Biophysical Journal*. "Text editing computers and typesetting computers can interface with each other through programming for capability."

Using a word processor or text editor, an author can add an editor's changes and codes for typesetting instructions and produce a computer tape of his or her article. That tape can be delivered to a printer for immediate typesetting.

Unfortunately, this is not understood by persons unfamiliar with the capabilities of computers. Printers, for example, know that printshop computers do automatic typesetting, but not all of them know that their computer can accept tapes from outside computers.

It took a person wearing three hats (scientist, member of the computer division, and editor of a journal) to convince a publisher (Rockefeller University Press) and a printer (Science Press) that it was not only possible, but advantageous, for them to let the author prepare the manuscript tape that gets put on the printshop computer.

Dr. Parsegian arranged a demonstration project using a manuscript accepted for publication by the *Biophysical Journal* from a



Dr. Parsegian (second from left) checks the first draft of their experiment with his team (l to r): Ms. Crawford, and systems analysts Bonnie Douglas and Martha Horton.

fellow DCRT scientist, Dr. John Fletcher.

Two systems analysts developed the programming needed to convert WYLBUR code into a code recognized by the printer's computer. WYLBUR is a text-editing software program supported by the NIH central computer.

In the experiment, DCRT secretary Nancy Crawford prepared the Fletcher manuscript on WYLBUR to test the ease with which the printer's formatting codes could be inserted into the text.

Her finding that the typist can readily adapt to the new codes represented a bonus benefit, because many NIH manuscripts are prepared on WYLBUR. This means that NIH authors can draft their own manuscripts at a word-processing typewriter, transfer the text into a WYLBUR file, and transform the file into an appropriate tape.

Copy errors are minimized, because manual retyping and tedious proofreading are eliminated at the author's desk and at the printshop.

"When adapted for each printer's computer, the new procedure benefits all parties involved in a manuscript's preparation," says Dr. Parsegian. The author can achieve lower error rates and page charges. The publisher and printer, lower printing costs. The editor, lower page costs.

"Ours is a pilot project. It has proven that the path a manuscript travels from concept to printed article can be substantially shortened. We now need more authors and editors to show more publishers and printers they can do it."

Dr. Parsegian urges NIH authors preparing papers for publication to call him at 496-1135 for information about the DCRT experiment. □

Three New Members Join NEI Advisory Council

Dr. Christina A. Enroth-Cugell, of Evanston, Ill., James Farmer of Washington, D.C., and Norma F. Krajczar of Morristown, N.J., have been appointed to the National Advisory Eye Council.

A distinguished neurophysiologist, Dr. Enroth-Cugell is a professor at Northwestern University, and is associated with the Bio-medical Engineering Program there. She has long been in the forefront of research on the neurophysiology of the visual system.

Dr. Enroth-Cugell has received research grant support from NIH every year since 1960, and from 1974 to 1978 she served on the NEI Vision Research Program Committee, reviewing grant applications.

Mr. Farmer, a leading activist for civil rights

and social reform, is executive director of the Coalition of American Public Employees. CAPE coordinates political, legislative, and public education programs at the national and state level for nearly 4 million public workers in all 50 states.

Mr. Farmer founded the Congress of Racial Equality in 1942, and became one of the Nation's most influential civil rights leaders.

After serving as national chairman of CORE, 1942-44 and 1950, and national director, 1961-66, he resigned to head the Center for Community Action Education, a private agency established to develop and implement a national literacy program.

Mr. Farmer, appointed to his present position in 1977, continues to serve as president

of the Council on Minority Planning and Strategy, chairman of the Fund for a Open Society, and a member of the board of directors of six national organizations.

Mrs. Krajczar, an authority on rehabilitation of people with visual disabilities, is executive director of the New Jersey Commission for the Blind and Visually Impaired in Newark, N.J.

She served as coordinator of religious activities and director of development projects at the University of New Hampshire, 1953-56; head resident supervising 450 students at the University of Illinois, 1956-59; and field representative for the Seeing Eye, Inc., 1959-62.

Mrs. Krajczar began working for the New Jersey commission in 1964 as a rehabilitation teacher and served on the commission's board of trustees, 1972-77. She was appointed executive director of the commission in 1977. □

Biologist's Art Work Selected for Crafts Show

An enameled pin fashioned by Tina Chisena, an NCI biologist, has been selected for exhibition by the Creative Crafts Council of Washington.

The blue, green, and silver pin will be on display at the council's 14th Biennial Exhibition, which will be held Mar. 8-30 in the Torpedo Factory Art Center, Alexandria, Va.

Ms. Chisena, who has been enameling for 6 years, describes it as "a scientific art form." Temperatures and times are involved, as well as the chemistry of the glass and metal, she explains.

Learning the ancient art form is "fairly easy," according to Ms. Chisena, who teaches a course in enameled jewelry at the Glen Echo Park crafts center.

The exhibition will feature works in clay, fiber, enamel, glass, wood, leather, and metal crafted by local artists. It will be open to the public in the art center's Potomac Craftsmen and Scope Galleries between 11 a.m. and 4 p.m. daily. □



Ms. Chisena estimates it took 20 hours to make the enameled pin being displayed at the Torpedo Factory. The pin combines two enameling techniques: cloisonne and champleve.

Health and the Indoor Environment Is Seminar Topic

A seminar on the Health Effects of Energy Conservation Related to the Indoor Environment will be held at Stone House on Monday, Mar. 10, at 2 p.m.

The meeting will feature Dr. Ib Andersen, director of the Occupational Medical Institute, Department of Labor, Denmark. He is an authority on the health effects of air contaminants, temperature and humidity, and other environmental factors in the indoor climates of laboratories, industry, and the home.

Dr. Andersen has studied the potential and actual health effects of the buildup of air contaminants in occupied spaces as a consequence of reduced ventilation. He will discuss

the hazards associated with the buildup of formaldehyde from particle board used as building material and in furnishings.

The health effects of the buildup of unburned fuel and combustion products such as carbon monoxide, oxides of nitrogen, and hydrocarbons will also be discussed.

Positive and negative air ions have been identified as possible influences on our feelings of well-being. Dr. Andersen will talk about the results of his research in this area.

The seminar is sponsored by the Division of Safety, Office of Research Services, OD, assisted by the Fogarty International Center. □

Annual Photo Contest Sponsored by Camera Club To Be Held April 2

The Third Annual NIH Employees' Photographic Competition will be held on Wednesday, Apr. 2, at 7:30 p.m., in Wilson Hall, Bldg. 1. The event is open to the public, and judging will be done by three well-known photographers not associated with NIH.

The contest is sponsored by the NIH Camera Club and photos may be entered at Wilson Hall, between 11 a.m. and 6:30 p.m., on the day of the contest.

Entries not picked up at the conclusion of the judging can be picked up at Wilson Hall on Thursday, Apr. 3, from noon to 6 p.m.

There are three categories of entry: slides, color prints, and black and white prints.

Competition rules require: all slides must be mounted in 2x2 mounts and must contain an orientation mark in the lower left corner when the slide is seen correctly when looking through the slide.

Prints may be no smaller than 5x7 inches and no larger than 16x20 inches. All prints must be mounted on a mat no larger than 16x20 inches. No prints may be submitted in any type of frame (including plexiglass).

In addition, an individual may enter as many

as four photos in each category for an entry fee of \$2 per category entered. Prints may be commercially processed. Winning photos, including honorable mentions, from previous NIH employee photo competitions may not be entered.

The competition is open to all NIH employees, NIH Camera Club members, and their immediate families. There is no restriction on subject matter of the entries.

Competitors should have the photographer's name and the photo title on the back. All slides must have the photographer's name and photo title on the side of the mount opposite from the orientation mark.

Prizes will be awarded to the winners in each category: First Prize is \$30; Second Prize, \$20; and Third Prize, \$10. All honorable mentions will receive an award ribbon. NIH Camera Club members may count points won toward star awards.

Although due care will be taken in handling all entries, the NIH Camera Club will not be responsible for losses or damage.

For further information, contact Heather Banks, 340-3327. □

Dr. Begab, NICHD, Retires; Played Significant Role In Mental Retardation Field

Dr. Michael J. Begab, a health scientist administrator who played a significant role in moving the field of mental retardation from what was described as its "infancy and myth-ridden adolescence" to maturity and scientific responsibility, retired recently after more than 22 years of Federal service, 16 with the NICHD.

Recently a group of his colleagues in behavioral and biomedical research involving mental retardation gathered to honor him with a farewell party.

While at NICHD's Center for Research for Mothers and Children, Dr. Begab served as director of the Mental Retardation Research Centers Program.

He also has served as president of both the American Association of Mental Deficiency and the International Association for the Scientific Study of Mental Deficiency. Since 1964, he has been closely associated with the 12 mental retardation centers.

At his party, Dr. Begab was praised for his contribution in organizing and stimulating a unique research network, commended for his positive leadership and counsel, and for his dedication.

He has started on a second career as vice president of University Park Press in Baltimore. □

R&W Plans Trip to Atlantic City

R&W is planning a trip to Atlantic City on Saturday, Mar. 22. The \$19.90 price includes: round-trip bus transportation, admission to the casino, a champagne buffet, and a guide offering information on hotel services.

Buses will leave from Bldg. 31C at 7:30 a.m. and will return to NIH in the evening. Space is limited so sign up now at the R&W Activities Desk, Bldg. 31, Rm. 1A-18. □

NIH Sailing Ass'n Spring Training Includes Lessons on Sloops

The NIH Sailing Association is offering employees basic sailing lessons on any of the club's four Flying Scot sloops.

This year's spring training is a combination of classroom and on-the-water sessions. Classes will be held on five consecutive Monday nights, beginning Apr. 7. The location of the classes will be announced at the time of registration.

On-board training begins with a "meet-the-boats" orientation on Saturday, Apr. 12. Individualized instruction will be on weekday afternoons for three or four sessions.

Registration for the lessons begins on Wednesday, Mar. 5, at the R&W Activities Desk in Bldg. 31. The cost is \$75, which includes membership in the NIHSA and a textbook on sailing.

Class size is limited, and registration is on a first-come basis. For further information, call Wendy Anderson, 468-6586, evenings.

NIHSA holds its monthly meetings on the last Thursday of each month in Bldg. 30, Rm. 117. □

Production of Human Interferon by Macrophages Demonstrated for First Time

The production of human interferon by highly purified macrophages has been demonstrated for the first time by researchers at the University of Rochester School of Medicine and Dentistry, according to a report by the Division of Research Resources.

Since the discovery of interferon in Finland in 1957, researchers began experimenting with its use in treating viral infections. The first problem encountered by the scientists was the difficulty of producing human interferon in sufficient quantity for clinical trials.

Because interferon is relatively species specific (being most effective in the species in which it is produced), human interferon is required.

Interferons are a class of proteins which appear to be mainly responsible for limiting the spread of viral infections. They are produced by animals and humans as a primary response to invasion by viruses.

The ability of macrophages to produce human interferon indicates that these cells may also contribute to the body's primary defenses against viral diseases and also against cancer.

Interferon appears to be produced by the first cells infected by a virus. The mechanism of interferon's antiviral action involves stimulating the infected cell to produce another protein, called antiviral (AVP), which interferes with the replication of viruses.

It appears that after interferon is produced, it is exported to neighboring cells to warn that a viral invasion is imminent and stimulate them to produce AVP.

The AVP changes the cell's protein synthesizing machinery so that it cannot be used by viral genetic material. Interferon might be looked upon as the first alert of the antiviral defense system of the body.

Macrophages are white blood cells which can ingest foreign particulate matter. One of their main functions is to cleanse the blood and lymph of such material. In addition to these "scavenger" activities, macrophages are believed to process antigens, such as viruses, prior to antibody formation.

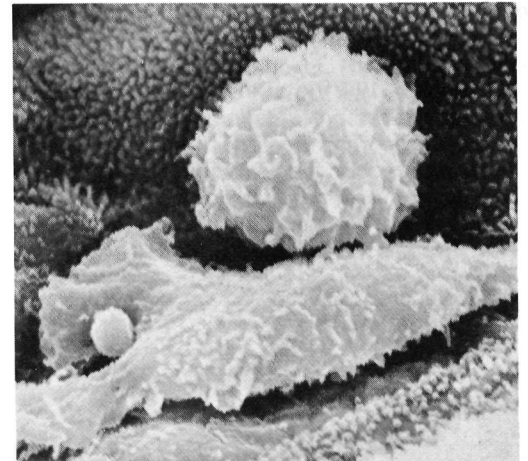
In the current study, Drs. Norbert J. Roberts, Jr., R. Gordon Douglas, Jr., Ruth L. Simons, and Margaret E. Diamond of the infectious unit at the University of Rochester Medical School subjected three populations of human white blood cells—peripheral mononuclear leukocytes, highly purified monocyte-derived macrophages, and highly purified lymphocytes—to live influenza A virus *in vitro* to test for the capability of producing interferon.

In eight separate experiments, the virus-exposed macrophage preparation produced 100 to 800 units of interferon per milliliter.

Highly purified lymphocytes, in contrast to the macrophages, did not produce interferons when exposed to live influenza virus.

The peripheral mononuclear leukocytes from which the macrophages were derived also produced 800 units of interferon per milliliter when stimulated by live influenza A virus.

Dr. Roberts points out that "macrophages have been thought to play an important role in host defense against viruses, and the produc-



One of two macrophages (bottom) devours a foreign particle. When battling viral infections, macrophages produce interferon.

tion of interferon in this study provides one possible mechanism to support this concept.

"In addition, macrophages' production of interferon may be one mechanism of their extensive antitumor activity, since interferon can render macrophages tumoricidal and can inhibit the growth of tumor cells directly.

"Interferon has not only antiviral activity," Dr. Roberts says, "but it also has cell-growth inhibitory activity."

These studies were supported by the Biomedical Research Support Program of DRR, the National Institute of Allergy and Infectious Diseases, and the United Cancer Council, Inc. □

DR. LOWE

(Continued from Page 1)

Lowe has served as principal coordinator for radiation research activities at NIH, and for those trans-governmental responsibilities which HEW or Congress has assigned to the NIH Director. He will continue with those responsibilities for the immediate future.

Prior to being named Special Assistant to the Director last March, Dr. Lowe represented HEW on the President's Reorganization Project, Food and Nutrition Study in OMB.

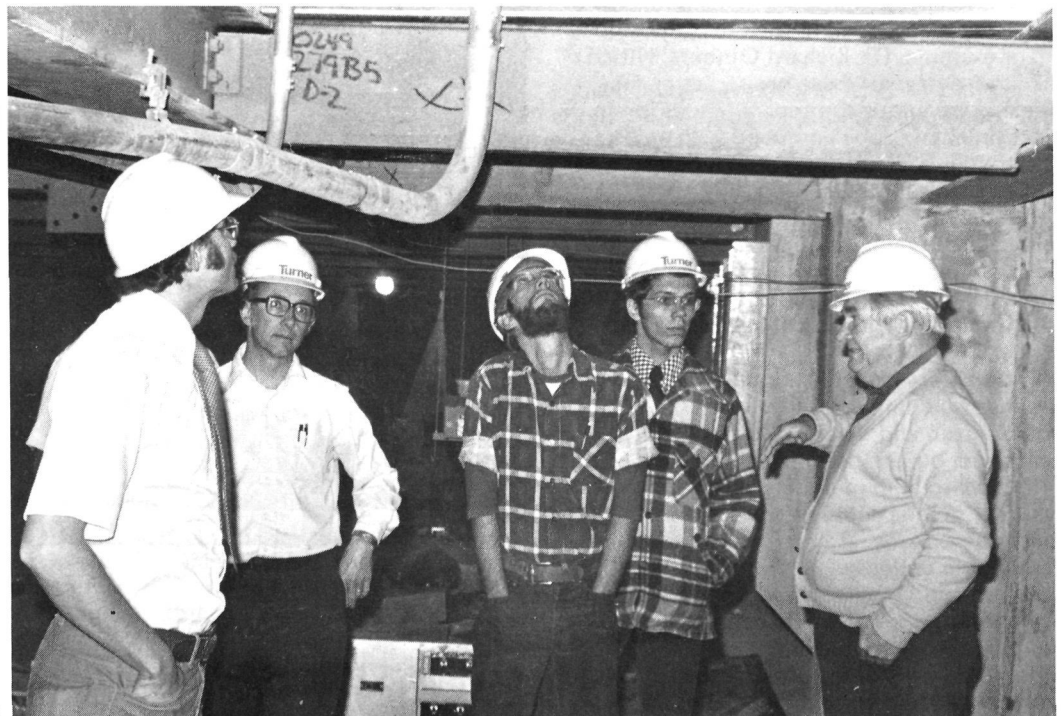
He also served as executive director of the President's Biomedical Research Panel and the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research.

During his career, he has served as Special Assistant for Child Health Affairs, Office of the Assistant Secretary for Health; scientific director, NICHD; and director of the Human Development Center and professor of pediatrics, University of Florida, Gainesville.

Dr. Lowe's specialty is pediatrics, and he has authored or coauthored some 100 scientific papers on human development.

In his role as Acting Associate Director, Dr. Lowe says he plans to work toward including more assessments of emerging technologies in the Consensus Development Program.

Dr. John T. Kalberer, Jr., will continue in his role as assistant director for OMAR. □



Dr. Al Edward (r), chief, Comparative Medicine Branch, NIEHS, hosts the first hardhat tour for veterinarians of the NIEHS facility under construction. The tour was part of the initial meeting of veterinary lab animal science professionals from the Triangle Park area, and was conducted with a special emphasis on the laboratory animal spaces. Also on the tour were (l to r): Drs. Philip Johnson, campus veterinarian, and James Pick, director of the division of laboratory animal medicine, both of the University of North Carolina at Chapel Hill. Next to them are Drs. Warren Kornegay and Nick Jensen, clinical veterinarians in the division of laboratory resources at Duke University.

Science Writers Hear Neuroscience Advances

Second of two parts.

Four NIH researchers discussed their explorations into the "inner space" of the brain and nervous system at a recent Science Writers Seminar.

In the Feb. 19 issue of the "Record," we summarized the presentations of Dr. Louis Sokoloff, who described a technique for observing functional activity in the brain, and Dr. Edward Evarts, who talked about the control of movement by the brain.

Dr. Thomas Reese, chief of the Functional Neuroanatomy Section, NINCDS, described how the mysteries of nerve cells are being revealed through a new technique.

To study the brain and spinal nerves, researchers freeze tissue and examine it by a method called freeze fracture, which shows the interior of cell membranes.

Conventional freeze fracture cannot, however, show how neurotransmitter—the chemical "language" by which nerve cells communicate with each other and with muscles—is released across the synaptic membrane. The fixatives used to prepare tissue for freeze fracture are at least 100 times slower than the release process, which is completed 5 to 10 milliseconds after a nerve impulse.

Dr. Reese and Dr. John Heuser, University of California at San Francisco, developed a technique for freezing tissue so rapidly—within 1 to 2 milliseconds—that they were able to observe the release of neurotransmitter.

The freezing device they built slams samples of tissue against a metal surface cooled by liquid helium.

The ultra-rapid slam freezing technique has important uses besides freeze fracturing, said Dr. Reese, because ice crystal growth in the tissue is negligible and soluble components of the tissue are stopped in their living positions.

For example, Dr. Richard Ornberg, NINCDS, takes advantage of these properties of the freezing technique to prepare tissues for an electron microscope equipped with an X-ray spectrometer, an instrument that detects ions and elements in tissue.

The distribution of calcium, an important intracellular regulator of nerve and muscle function, is now being visualized with this approach. Other intracellular components such as sugars or neurotransmitters can also be studied.

The slam freezing technique provides a tool for understanding how disease agents like botulin toxin and Black Widow spider venom act on synapses, explained Dr. Reese.

It will also help in understanding how synapses in the central nervous system function normally, after administration of drugs, or in epilepsy.

Dr. Ronald Dubner, chief of the Neurobiology and Anesthesiology Branch, NIDR, described studies which indicate that the superficial layers of the areas of the spinal cord and medulla known as the dorsal horns play a major role in pain transmission.

These layers—the outer or marginal layer (MAR) and the next inner one, the substantia gelatinosa (SG)—receive the exclusive input of the nerve fibers whose receptor endings in the skin respond to noxious, or tissue-damaging, stimuli.

There are two types of neurons in these layers that receive pain signals, he said.

One type, located mainly in the MAR layer, responds only to stimuli, such as heat or intense pressure, that cause tissue damage.

The other type, usually found in the deeper layers of the dorsal horns, is activated by gentle mechanical stimuli such as light touch or hair movement, but responds maximally to noxious stimuli.

Dr. Dubner described his research on the properties of these neurons.

Both types transmit information to the thalamus—the integrating center for sensory input on its way to the cerebral cortex—and are located in the layers on either side of the SG layer.

There are very few neurons in the SG layer itself that transmit signals directly to the thalamus.

The neurons intrinsic to the SG layer receive input from peripheral nerve fibers, from descending axons from higher brain centers, and from the dendrites of neurons located in the deeper layers of the dorsal horn.

It appears that the SG layer modulates the output of the MAR neurons that project directly to the thalamus.

One of the neurons intrinsic to the SG layer which may play an important role in this

modulation is being studied by NIDR investigators.

This "stalked cell" has its cell body located close to the MAR-SG border. Its dendrites usually extend into the deepest part of the SG layer, and occasionally into the deeper layers of the dorsal horn.

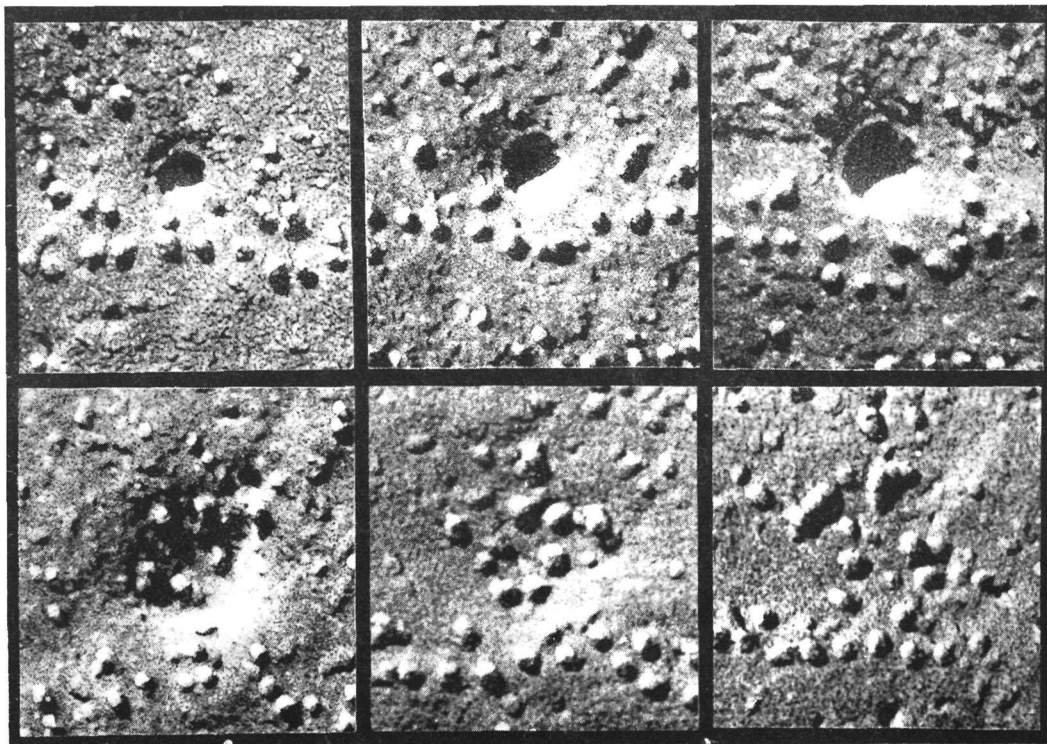
The cell's axon branches extensively in the MAR layer, among the dendrites of that layer's neurons which transmit information to the thalamus.

The stalked cells, therefore, may function as excitatory interneurons which transmit input from peripheral neurons that receive stimuli to neurons in the MAR layer that send the signal to the thalamus.

Dr. Dubner also discussed the variety of neuromediators that have been found in the SG and MAR layers of the dorsal horns.

These chemicals include enkephalin, GABA (gamma aminobutyric acid), serotonin, and norepinephrine. There also is some evidence for the presence of opiate receptors and neurotensin in the SG layer.

These substances presumably play a role in the processing of sensory information, Dr. Dubner explained, but the functional role of most of these chemicals in pain transmission has yet to be established.



The release of neurotransmitter is shown in six freeze-fracture views (magnified X 500,000) of progressive stages of synaptic vesicles opening and collapsing into the membrane of a synapse. The entire process takes place in less than 5 milliseconds, so it can be seen only by rapid freezing of nerves.

CC Blood Bank, Red Cross Sponsor Drive at Westwood

The NIH Clinical Center Blood Bank and the Montgomery County chapter of the American Red Cross are sponsoring a combined blood drive on Thursday, Mar. 13, at the Westwood Bldg.

The drive will support patients in the Clinical Center and other patients in the

Washington metropolitan area as well as the NIH blood assurance program for employees and their families.

The drive will begin at 9:30 a.m. and end at 3:30 p.m. For more information, call 496-1048.

Chesapeake Bay-- Seminar Series Topic

The health and future of the Chesapeake Bay will be discussed in a seminar series to be held at NIH during March and April.

Open to the public, the series is being sponsored by the NIH Sailing Association, which will present scientists engaged in physical and biological research on the bay or concerned with setting policy on bay issues.

All lectures will be in the Masur Auditorium and will begin at 8 p.m. The series is being presented to increase awareness of the scientific knowledge that exists about the bay.

Among the scientists who will speak:

- Dr. Gerry Schubel, director of the Marine Science Center at the State University of New York at Stony Brook, conducted research on the bay at the Chesapeake Bay Institute of the Johns Hopkins University for 15 years.

The principal adviser to the State of Maryland on the management of dredged materials, he will begin the series on Wednesday, Mar. 19, by discussing the geological history and physical properties of the bay.

- Dr. Walter Boynton, assistant professor at the Chesapeake Biological Laboratory of the University of Maryland Center for Environmental and Estuarine Studies at Solomons Island, will speak on the current information on the ecologic systems of the Chesapeake, on Tuesday, Mar. 25.

- Dr. Robert Lippson, head of the Environmental Assessment Branch, National Marine Fisheries Service, will discuss the life cycles and other details concerning major populations of the bay on Tuesday, Apr. 1.

- Dr. L. Eugene Cronin—director of the Chesapeake Research Consortium, which involves the University of Maryland, the Johns Hopkins University, the Smithsonian Institution, and the Virginia Institute of Marine Science—will conclude the series with a panel discussion on current issues about how the Chesapeake Bay is used. Dr. Cronin will also serve as moderator for the series.

Individuals interested in attending the entire series, in meeting in small groups with the speakers, or wishing to be informed of relevant reading material may contact Dr. Barbara R. Williams, 496-7087. □

Clinical Center Awarded 2-Year Accreditation

The Joint Commission on Accreditation of Hospitals has again awarded the Clinical Center a 2-year accreditation.

The JCAH is a private, nonprofit organization formed in 1951 to establish a program of standardization for hospitals, long-term care facilities, psychiatric facilities, and ambulatory health care clinic.

It is governed by representatives of five national health care organizations: the American College of Surgeons, the American College of Physicians, the American Dental Association, the American Hospital Association, and the American Medical Association.

Accreditation is a voluntary process that hospitals seek to evaluate and improve the quality of health care services. □

Turf Foreman Retires After 37 Years of Service

A replica of a set of lawn mower handle bars and a scale model tractor mower were presented at a January retirement luncheon for Henry L. Bynum, foreman of the Turf Management Section, Grounds Maintenance and Landscaping Branch, DES. He ended his career after 37 years of Government service.

The gifts were replicas of his favorite lawn mower, an 88-inch tricycle-type rotary mower. Mr. Bynum has worked in the Turf Management Section since transferring from Bethesda Naval Medical Center in 1952. He coordinated the Section's lawn mowing operation, estab-

lishment of new lawns, and weed killing programs.

A native of Ashville, N.C., he moved to the Washington, D.C., area during the Depression and worked as a laborer, bricklayer, cab driver, golf caddy, and boxer. He also worked at Union Station, and remembers assisting Eleanor Roosevelt and other well-known personalities who traveled by train in the late 1930's.

Mr. Bynum's pride in "good hard work" was well known to many NIH employees. In his retirement, he plans to play more golf. □



Mr. Bynum and his co-workers show off his "handle bars" and a plaque presented to him at his retirement luncheon. L to r are: William Dodson, Mr. Bynum, Wilbur Gray, Elmer Lazarus, Ronald Davis, and Clarence James.

Automatic Abnormalities in Atopy and Cystic Fibrosis To Be Discussed by Clinical Staff

There will be a Combined Clinical Staff Conference on Thursday, Mar. 13, at 3:30 p.m. in the Masur Auditorium.

The conference on Automatic Abnormalities in Atopy and Cystic Fibrosis will be moderated by Dr. Michael Kaliner, head of the Allergic Diseases Section, Laboratory of Clinical Investigation, NIAID.

Also speaking at this conference will be Dr. James Shelhamer, fellow in pulmonary medicine at Johns Hopkins Medical Center. He will discuss beta-adrenergic responses.

Dr. Craig Venter, assistant professor of pharmacology and therapeutics at the State

University of New York at Buffalo, will talk about autoantibodies to beta-adrenergic receptors.

Dr. Laurie Smith, assistant chief, allergy and clinical immunology service, Walter Reed Army Medical Center, will speak on cholinergic responses.

Abnormalities in Cystic Fibrosis will be Dr. Pamela Davis' topic. She is assistant professor of medicine, division of pulmonary medicine, at the University of Tennessee at Memphis.

This conference has been approved for category 1 credit. □

R&W Night for 'Dancin' ' Is Mar. 26

"Dancin' " at the National Theatre—about show dancing and its relation to the "high" forms of ballet and modern dance—has nine dance numbers, each with its own theme, done by 16 gifted dancers who can sing as well as dance.

R&W night for the show will be Wednesday, Mar. 26, with \$19 orchestra seats discounted to \$17.10 plus service charge.

Tickets for this musical can be ordered at the R&W Activities Desk, Bldg. 31. □

Visiting Program Handbook Available From FIC

A *Handbook for the NIH Visiting Program Participants* is now available from the Fogarty International Center.

The book offers foreign scientists and their families valuable information about residing in the Washington area. It explains the visiting program and the policies, benefits, and general services of NIH.

For a copy of the handbook, call 496-6166. □



About 20 wives of foreign scientists in NIH's Visiting Program enjoyed refreshments and each others' company during a recent gathering at Stone House. Dr. DeWitt Stetten, Jr., Senior Scientific Adviser at NIH, introduced



the wives to the intramural research program, and Dorothy Horlander, chief of FIC's International Visitors Center, recounted the history of Stone House and the FIC.

Phillip Webb, Recently Retired NCI Contracting Officer, Dies

Phillip J. Webb died Feb. 10 while vacationing in Florida. He had retired a month earlier as acting chief of the Biology and Diagnosis Contracts Section, Research Contracts Branch, NCI, after 41 years of Government service.

Mr. Webb's association with NIH began in 1939, when the agency was headquartered in a laboratory of the Fisheries Bureau in downtown Washington.

After NIH moved to Bethesda, he worked for the Purchasing Division of the Public Health Service until leaving for duty in the Marine Corps in World War II.

Returning to the PHS, Mr. Webb was selected for the initial PHS-sponsored courses in public health management at American University.

With this training, he started working in 1951 for NCI as an administrative assistant to

the Institute's Director, Dr. John R. Heller. He then moved to the procurement field, eventually becoming a contracting officer in 1973, a position he held until his retirement.

In this capacity, Mr. Webb supervised the review and negotiation of contracts with universities, clinical centers, and private firms, for work ranging from clinical and epidemiologic studies to the development of automated cytology and scanning equipment.

Mr. Webb was honored at a retirement luncheon attended by more than 100 people, including Dr. Heller, who is now an NCI consultant.

He is survived by his wife, Joyce, of Derwood, Md., who also recently retired as unit supervisor in the Division of Financial Management; three sons; and three grandchildren. □

RADIATION

(Continued from Page 1)

the elements of research considered essential in conducting comprehensive radiation studies, some of which are: epidemiology, genetics, therapeutic applications, and technology development. Public participation is invited during and after the conference.

Working Papers Available

Texts of the papers to be presented, as well as written public comments submitted in time for inclusion, have been prepared. These working papers are available from the NIH Office of Communications, Bethesda, Md. 20205 or call (301) 496-2535.

For further information concerning the meeting, contact: Dr. Charles U. Lowe, Special Assistant to the Director, NIH, Bldg. 1, Rm. 103, Bethesda, Md. 20205 or call (301) 496-3283. □

Margie Hensch, NICHD, Retires After 31 Years of Service

Margie Hensch, head of the Grants Administration Section, Office of Grants and Contracts, NICHD, retired recently after 31 years with the Public Health Service.

Ms. Hensch came to NIH in 1953 and served close to 10 years in the Grants Administration Section of DRG. In September 1963 she began her career with NICHD, just a few months after the Institute was established by Congress.

During her career at NICHD, Ms. Hensch received several letters of commendation for her willingness to provide time, support, and services to other areas of the Institute needing immediate assistance.

Ms. Hensch was also active in the EEO efforts of the Institute. In 1978, she received the NICHD Annual EEO Award for her ongoing efforts to improve working conditions for minorities, women, and the handicapped within her own office and throughout NICHD.

Prior to her retirement, Ms. Hensch was presented with the DHEW Superior Performance Award. □

Two Operating Room Nurses Are Among First Certified



Nurses Mc Isaac (l) and Woolsey.

Mary K. McIsaac and Edith Woolsey, two Clinical Center operating room nurses, are among the first in the Nation to receive certification for professional achievement from the Association of Operating Room Nurses. So far a total of 686 nurses passed the national examination, the last step in the certification process.

AORN, the professional association for operating room nurses, with more than 28,000 members nationwide, offered the certification program for the first time this year.

Certification indicates that a nurse has met high professional standards for knowledge and skill. To be eligible, an applicant must be a registered nurse who has worked as an operating room nurse for at least 2 years.

A nurse's performance is evaluated by two fellow nurses; she then must pass the 4-hour examination that tests her knowledge of patient care before, during, and after surgery.

For 3 years Ms. McIsaac has been at the CC and was previously employed for 2½ years by the Tucson Medical Center in Tucson, Ariz. She received her nursing degree from St. Joseph's Hospital in Pittsburgh, Pa., and her B.S. degree from Geneva College, Beaver Falls, Pa.

Ms. Woolsey has been employed at the Clinical Center for 6 years and at the Veterans Administration Hospital in Washington, D.C. for 14 years. She received her nursing degree from the Orange Memorial Hospital in Orlando, Fla. □

BLACK HERITAGE FOR AMERICA

Annual Black History Observance

Sponsored by the
NIH Black Cultural
Committee



Nikki Giovanni, the "Princess of Black Poetry," read excerpts from her poems to a well-attended lunchtime audience.



The Washington Highland Dance and Instrumental Group, from the D.C. Public School system, performed African dances and recited poetry.



D.C. Mayor Marion Barry (c) spoke at the beginning of the program on Feb. 11. Standing next to him are: Levon Parker (l), Black History Month coordinator, and NIH Deputy Director Dr. Thomas E. Malone.



Mary B. Brown, a CC employee honored during the program, sits next to (l) Dr. Samuel L. Meyers, Executive Director, National Association for Equal Opportunity in Higher Education, and Otis Ducker, Director, Division of Administrative Services, NIH.



Nathan Carter directed the renowned Morgan State University Choir's evening performance. (Information about this program submitted by Jasper Cummings. Photos by Gary Best.)

New Screening Procedure Detects Viral Infection Which Causes Hearing Loss in Newborns

An effective screening procedure to detect a viral infection common in newborns which is the leading cause of hearing impairment in the United States has been developed, according to clinical researchers from the Medical Center at the University of Alabama in Birmingham, who released their findings last week.

Dr. Sergio Stagno, a pediatrician at the UAB Medical Center, explained that the screening procedure detects cytomegalovirus (CMV), a common cause of intrauterine infection frequently transmitted to infants at or near the time of delivery.

"Clinically, this congenital infection is largely asymptomatic in the newborn period," Dr. Stagno reported.

"However, both overt disease and sub-clinical infections can lead, in a significant number of infected infants, to serious hearing problems which can appear at a later age.

"In fact, we now believe CMV is the leading cause of sensori neural hearing loss in children in the U.S.," Dr. Stagno added.

The research is a result of studies funded by the National Institute of Child Health and Human Development that took place at the Medical Center's General Clinical Research Center, a special 10-bed unit located in the University of Alabama Hospital. The unusual hospital unit is one of 75 such centers funded by the Division of Research Resources.

Clinical research shows CMV infections also can result in growth retardation, learning disabilities, sight problems, and immune system disorders, Dr. Stagno explained.

"For those with overt neonatal illness, manifestations may range from isolated organ

system involvement to multiple organ system dysfunction with life-threatening potential," he said.

"However, the most significant problem is an undetected hearing loss in the infected, but asymptomatic, newborn. It is critical that these infants be detected early so that management of the hearing loss and other manifestations can begin."

The UAB pediatrician said if the hearing loss is not detected early in life the development of language is compromised and the learning process is slowed at a critical age.

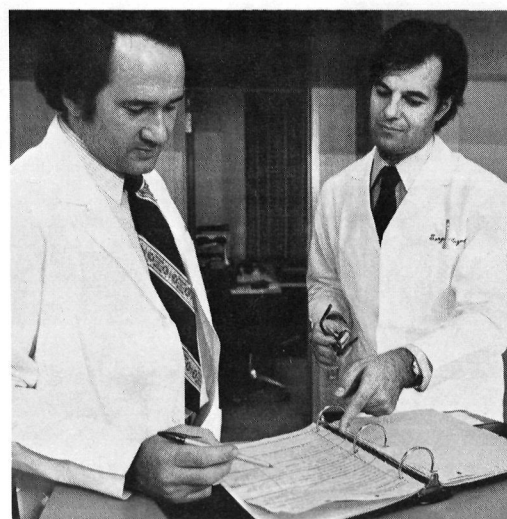
Dr. Stagno and his colleagues found that the rheumatoid factor test is an effective procedure to screen for CMV. The test involves taking a small amount of blood from a newborn and checking it for a unique type of antibody of significance in rheumatoid disease.

The presence of the antibody in a newborn indicates the presence of an infection, most likely CMV. The detection of the rheumatoid factor is as sensitive as tests used in the past to screen for CMV infections but, unlike the others, it produces no false positive results, he said.

"The test results can be available in 2 hours, it is low cost, and it is convenient, since it only requires a small amount of blood obtained from a heelprick at birth," said Dr. Stagno.

The procedure was applied to 1,412 newborns and found that the test was accurate in identifying 35 to 40 percent of infants with congenital CMV infection. The procedure identified infected infants at the greatest risk for hearing loss and other medical problems.

UAB research has found that 1 to 2 percent



Researchers Drs. Pass (l) and Stagno discuss the progress of patients with the common congenital infection cytomegalovirus at the UAB General Clinical Research Center in Alabama.

of newborns have CMV infections, making it a significant health problem.

Researchers say that even a more accurate screening procedure must be developed that will gain acceptance and be used on a mass basis throughout the United States.

As a result of the screening program used in Birmingham, researchers now are closely following 300 children who have CMV infections. These patients are followed through medical checkups at the clinical research center.

The learning problems caused by the infection are evaluated at the university's center for developmental and learning disorders, a unique facility set up to deal with learning disabilities, such as those seen in children with CMV infections.

Currently, preliminary work on developing an antiviral compound to treat CMV infections is already under way at the center. For example, one compound, called ara-A, has already undergone clinical trials with promising results on the treatment of neonatal herpes infections, and another compound, called ACV, has been approved for clinical trials that include herpes- and CMV-infected infants.

Further information about this research can be found in the February issue of *Pediatrics*. □



Members of the National Toxicology Program Board of Scientific Counselors were guests of Dr. David P. Rall (r), NIEHS Director and Director of NTP, on Jan. 14-15 in Research Triangle Park, N.C. The board advises Dr. Rall and the NTP Executive Committee on scientific content, philosophy, and policy relating to the national program. They also evaluate the merit and overall quality of science conducted in the NTP components. The visiting board members were (l to r): Drs. Mortimer L. Mendelsohn; Joseph C. Dunbar; Thomas H. Shepard; Margaret Hitchcock; Marjorie G. Horning; Norton Nelson, chairman; Curtis Harper; and Rall. Not shown is board member Dr. Alice S. Wittemore.

President Designates March As National Red Cross Month

March has been designated as national Red Cross Month, according to a recent Presidential Proclamation.

This year the American Red Cross has launched a special \$15 million disaster fund because of the financial drain it experienced when assisting the 450,000 victims of tropical storm Claudette and hurricanes David and Fredric last summer.

In the past, Federal employees have given financial support and blood donations. This year's Presidential decree urges Federal workers to support their local Red Cross chapters. □

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